



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/882,370	06/15/2001	Shinya Naito	FY.16950US0A	6724

20995 7590 10/23/2002
KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

EXAMINER

NGUYEN, TRAN N

ART UNIT	PAPER NUMBER
----------	--------------

2834

DATE MAILED: 10/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/882,370

Applicant(s)

NAITO ET AL.

Examiner

Tran N. Nguyen

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 04 September 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,7,8. 6) ☐ Other: _____

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. Figures 7-10 should be designated by a legend such as --**Prior Art**-- because only that which is old is illustrated. See MPEP § 608.02(g).
3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “**magnetization direction of the permanent magnet**” must be shown or the features of the limitations: *the bridges are inclined with respect to the direction of magnetization of the permanent magnet* must be canceled from the claims. No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Election/Restriction

4. Applicant's election of claims 1-8 in Paper No. 11, filed on 9/4/02, is acknowledged. Since Applicant did not provide any traversal arguments to the restriction requirement, the response is considered as election without traverse; therefore, the election/restriction is made FINAL.

Claim Rejections - 35 USC § 112

5. Claims 2-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 2, “bond magnet that fills the slit in a liquid form and is solidified” is indefinite because the process of making, i.e., filling a liquid bond magnet in the slit and letting the magnet liquid to solidify, known as molding process, does not further limit the structure of the bond magnet. A final product of a rotor having bond magnets embedded in the slits by inserting process or by molding process would serve the same function and having the same operational characteristics. Thus, the method of forming the device is not germane to the issue of patentability of the device itself. (*In re Thorpe*, 227 USPQ 964, 966.)

In claim 3, the term “adapted to” is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless —

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. **Claims 1-2** are rejected under 35 U.S.C. 102(b) as being fully anticipated by **Narita** et al (JP 11262205 A2).

Narita discloses a permanent magnet (PM) rotor comprising: a rotor core (10); a plurality of slits, wherein each slit has radially outward side and radially inward side, a longitudinal middle

portion at which portion of the core forming a bridge (k) across the slit to interconnect a portion of the rotor core on the radially outward side of the slits with a portion of the radially inward side of the slit and the respective bond PMs embedded in each slits (Fig 6).

A person shall be entitled to a patent unless –

(e) the invention was described in-

- (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
- (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

7. **Claims 1-2** rejected under 35 U.S.C. 102(e) as being fully anticipated by **Toide** et al (US 6225724 B1).

Toide discloses a permanent magnet (PM) rotor comprising: a rotor core (1); a plurality of slits (11) , wherein each slit has radially outward side and radially inward side, a longitudinal middle portion at which portion of the core forming a bridge (13) across the slit to interconnect a portion of the rotor core on the radially outward side of the slits with a portion of the radially inward side of the slit and the respective bond PMs (2) embedded in each slits (Fig 4).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Narita**, or alternately over **Toide**, as applied in the rejections of the base claim, and in view of **Goltz et al** (US 5945758).

Narita, or alternately Toide, discloses the claimed invention, except for the added limitations of projections or recesses formed inside surfaces of the slit to engage with the bond magnet.

Goltz, however, teaches a rotor having bond PM component (2) being securely affixed to a hub (3) by completely surrounding and engaging with a plurality of projections (5) thereof.

The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). In this instant case, those skilled in the art would realize that the importance teaching of Goltz is to provide engaging fastening means, i.e., projections, to an affixing component for attaching the bond PM thereon. These projections serve as adjoin means to tightly secure the bond PMs when the liquid molded bond PMs are solidified.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the rotor by embodying the rotor core's slits with a plurality of projections as engaging fastening means to affix the bond PMs thereto. Doing so would provide adjoin means to tightly

Art Unit: 2834

secure the bond PMs to the core, via the slit's projections, when the liquid molded bond PMs are solidified.

9. **Claims 5-6** are rejected under 35 U.S.C. 103(a) as being unpatentable *over Narita (or alternately over Toide)* as applied in the rejections of the base claims 1-2, as for **claim 4** rejected under 35 U.S.C. 103(a) as being unpatentable over *a combination of Narita (or Toide) and Goltz*, as applied in the rejections of the base claims 1-3, and further in view of level of ordinary skills in the art.

The prior-art refs in the aforementioned rejections disclose the claimed invention, particularly the rotor core forming a bridge across the slit to interconnect the core and the slits. However, the prior art refs do not disclose the added limitations of the bridges are inclined with respect to the direction of magnetization of the PMs.

However, as discloses by the prior art refs the bridges are for preventing magnetic leakage paths, and enhancing the mechanical strength of the core. By applying this teaching it would have been obvious to an artisan to modify the size and shape of the bridges, since the prior art refs reveal an example of forming the bridges, which are not limited to that exact shape or size.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the rotor core by configuring the bridges to be inclined with respect to the direction of magnetization of the PMs. It has been held that a change in size or shape is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955) (emphasis added).

10. **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Takahashi** (JP 9-266646) in view of **Goltz et al** (US 5945758).

Takahashi discloses the claimed invention, except for the added limitations of projections or recesses formed inside surfaces of the slit to engage with the bond magnet.

Art Unit: 2834

Goltz, however, teaches a rotor having bond PM component (2) being securely affixed to a hub (3) by completely surrounding and engaging with a plurality of projections (5) thereof.

The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). In this instant case, those skilled in the art would realize that the importance teaching of Goltz is to provide engaging fastening means, i.e., projections, to an affixing component for attaching the bond PM thereon. These projections serve as adjoin means to tightly secure the bond PMs when the liquid molded bond PMs are solidified.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the rotor by embodying the rotor core's slits with a plurality of projections as engaging fastening means to affix the bond PMs thereto. Doing so would provide adjoin means to tightly secure the bond PMs to the core, via the slit's projections, when the liquid molded bond PMs are solidified.

11. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable *over Narita (or alternately Toide)*, and further in view of level of ordinary skills in the art.

Narita, or Toide, discloses the claimed invention, particularly the rotor core forming a bridge across the slit to interconnect the core and the slits. However, the prior art refs do not disclose the added limitations of the bridges are inclined with respect to the direction of magnetization of the PMs.

However, as discloses by the prior art refs the bridges are for preventing magnetic leakage paths, and enhancing the mechanical strength of the core. By applying this teaching it would have been obvious to an artisan to modify the size and shape of the bridges, since the prior art refs reveal an example of forming the bridges, which are not limited to that exact shape or size.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the rotor core by configuring the bridges to be inclined with respect to the direction of

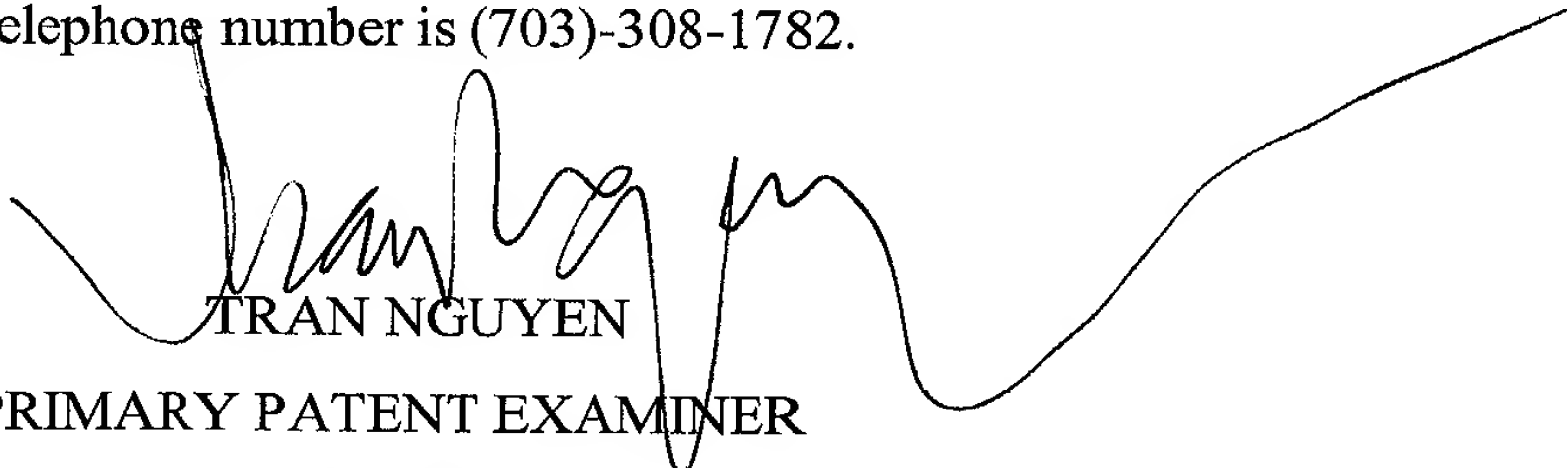
magnetization of the PMs. It has been held that a change in size or shape is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955) (emphasis added).

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tran N Nguyen whose telephone number is (703) 308-1639. The examiner can normally be reached on M-F 6:00AM-2:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703)-308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3431 for regular communications and (703)-395-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-1782.


TRAN NGUYEN
PRIMARY PATENT EXAMINER
TC-2800